

REMARKS

The application has been reviewed in light of the Office Action dated March 23, 2005.

Claims 22-59 were pending, with claims 23-37 and 39-59 having been withdrawn by the Patent Office from consideration. Claims 1-21 were previously canceled, without prejudice or disclaimer. By this Amendment, new claims 60-69 have been added, withdrawn claims 23-37 and 39-59 have been canceled, and claim 38 has been amended to remove reference to canceled claims. Accordingly, claims 22, 38 and 60-69 are now pending, with claims 22 and 64 being in independent form.

Claims 22 was rejected under 35 U.S.C. §102(b) as purportedly anticipated by Ohkouchi et al., Proceedings of 12th Symposium on Alloy Semiconductor Physics and Electronics, 1993, pp. 337-340.

Claim 22 is directed to a method for growing at least one layer of III-V alloy semiconductor on a semiconductor substrate, and including at least nitrogen and arsenic simultaneously, comprising: forming said alloy semiconductor by an MOCVD method at a pressure of at least that of conventional low pressure MOCVD, using a nitrogen containing organic compound as a source material for nitrogen, wherein said nitrogen containing organic compound is selected from the group consisting of monomethylhydrazine, dimethylhydrazine and tertiary butyl amine, and using a source material for arsenic. **The III-V alloy semiconductor comprises at least Ga, In, N, and As.**

Ohkouchi, as understood by Applicant, is directed to growth of a GaNAs alloy semiconductor by conventional MOCVD and use of DMHy as a source material for nitrogen.

However, Applicant does not find teaching or suggestion in Ohkouchi of a method for growing a layer of III-V alloy semiconductor on a semiconductor substrate, wherein the III-V

alloy semiconductor comprises at least Ga, In, N, and As, as provided by the claimed invention of claim 22.

A copy of the Ohkouchi paper is attached hereto as **Exhibit A**. In addition, a Form PTO-1449 is attached hereto as **Exhibit B**. Applicant requests that the Examiner review and consider the Ohkouchi paper in its entirety, and then indicate on the Form PTO-1449 that the reference has been considered.

For at least the above-stated reasons, Applicant respectfully submits that independent claim 22 and any claims depending therefrom are patentable over the cited art.

Claim 38 was objected to as being dependent upon a rejected base claim, but according to the Office Action would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 38 depends from claim 22. As discussed above, claim 22 is submitted to be allowable over the cited art. Therefore, no amendment to claim 38 is required.

The Office Action indicates that the prior art of record fails to teach the use of a horizontal type MOCVD apparatus to carry out the MOCVD method.

New claim 64 is directed to a method for growing at least one layer of III-V alloy semiconductor on a semiconductor substrate, and including at least nitrogen and arsenic simultaneously, comprising forming said alloy semiconductor by an MOCVD method under specified conditions of at least one of temperatures and pressures, wherein a horizontal type MOCVD apparatus is used to carry out said MOCVD method. Therefore, claim 64 and claims 65-69 depending therefrom are submitted to be allowable over the art of record.

In view of the amendments to the claims and remarks hereinabove, Applicant submits that the application is now in condition for allowance. Accordingly, Applicant earnestly solicits the

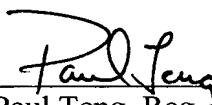
allowance of the application.

If a petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition. The Office is hereby authorized to charge any fees that may be required in connection with this response and to credit any overpayment to our Deposit Account No. 03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

Allowance of this application is respectfully requested.

Respectfully submitted,


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